

EXECUTIVE CHAMBER

CITY OF WARWICK



RHODE ISLAND

SCOTT AVEDISIAN
MAYOR

February 3, 2005

Mr. John Silva
Manager, Environmental Programs
Airports Division, New England Region, Federal Aviation Administration
12 New England Executive Park
Burlington, Massachusetts 01803

RE: **T.F. GREEN AIRPORT SUPPLEMENTAL SCOPING MEETING
CITY OF WARWICK - COMMENTS**

Dear Mr. Silva:

The City of Warwick hereby submits its comments for the supplemental scoping of the T.F. Green Airport Environmental Impact Statement (EIS). These comments are intended to convey the City's concerns and to protect its interests as a stakeholder in the public process; they are not intended to be an endorsement or acceptance of the master plan process.

The City of Warwick considers the master planning process that has led to this "supplementary scoping" session flawed. The City maintains that the FAA-mandated public process has essentially been circumvented by the will of a few supported by an ever-changing board of directors of a quasi-public agency. The Rhode Island Airport Corporation, the agency responsible for the adoption of proposed runway alternatives, has discarded its initial approval of a limited runway expansion to 7,500 feet, which was the result of an inclusive and open public (SRC) process in favor of a much longer 9,500-foot runway alternative. This abrupt change in direction by the RIAC Board of Directors is indefensible; it is the City's opinion that this sudden reversal is based solely on conjecture and the personal opinion of individuals who did not participate in the technical review process of the Study Resource Committee (SRC). To reverse the consensus achieved within the SRC process is to ignore stakeholders' concerns and to tarnish and minimize the public process.

This "supplemental scoping session" is an attempt to address the environmental impacts of a runway extension based on speculation and "dreams of service" without as much as a single written commitment from the air carriers servicing T.F. Green Airport. This "supplemental scoping session" is unjustified, unwarranted and a waste of taxpayer money. To undertake a

costly environmental study is counterproductive to the public process that RIAC itself developed and implemented and will assure years of litigation. The Federal Aviation Administration (FAA), the State of Rhode Island and RIAC must recognize that impacted families are not just dots on a map but are vital stakeholders in the air service community

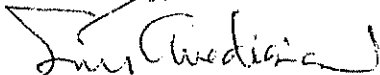
The ability of a public use airport to provide air service, in this case, to greater southern New England depends on the health and stability of the host community. To eliminate four million dollars annually from Warwick's tax base while exposing additional families to increased noise and degraded air quality is a formula that does not promote balance, harmony and fiscal stability. The City of Warwick provides both the foundation and vital infrastructure that supports this public use airport. The City's 39 miles of coastline and 85,000 residents provide tourism and taxes to the State's economy in a fiscally responsible fashion with one of the highest bond ratings available. To degrade the second largest City's fiscal stability, environment and quality of life in order to subsidize a single public asset is extremely counterproductive.

The focus must shift away from the "*build it and they will come*" attitude to one of preserving the integrity of public process and long-term stability of the host community, which would better serve T.F. Green than a longer runway. The responsibility of legitimizing this entire process falls to the Federal Aviation Administration (FAA). The City implores the FAA to abandon this costly "supplemental scope" in favor of a regionalized long-term approach based on solid rationale and a sense of balance

I trust the Federal Aviation Administration will consider the communities concerns raised in this letter.

If there are any questions regarding this matter please feel free to contact William DePasquale Jr., AICP, Principal Planner, at (401) 738-2000 ext. 6297

Sincerely,

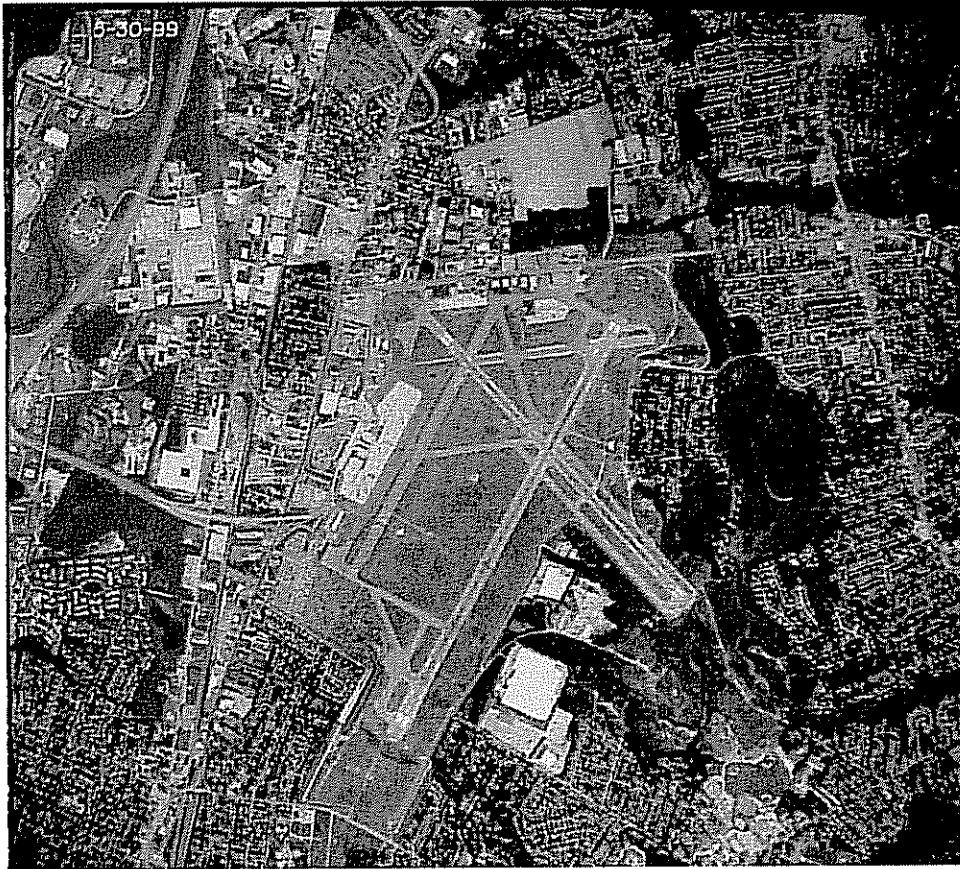


Scott Avedisian
Mayor

ATTACHMENT

C: The Honorable Lincoln D. Chafee
The Honorable Jack Reed
The Honorable James Langevin

**CITY OF WARWICK COMMENTS
“SUPPLEMENTAL SCOPING” FOR THE ENVIRONMENTAL
IMPACT STATEMENT PREPARED FOR THE PROPOSED
EXTENSION OF RUNWAY 5R- 23L AT T.F. GREEN AIRPORT
WARWICK, RHODE ISLAND (PVD)**



Prepared by:

*Warwick Planning Department
City of Warwick Rhode Island
February 3, 2005*

Submitted to:

*Federal Aviation Administration
Airports Division, New England Region
Mr. John Silva Manager, Environmental Programs
February 8, 2005*

SUMMARY	1
<u>AIR QUALITY</u>	2
AIR QUALITY MONITORING	2
TESTING - 65 DNL NOISE CONTOUR AND WITHIN 1.5 MILE RADIUS OF THE AIRPORT "FENCE"	3
HAZARD IMPACT	4
BASELINE HEALTH CONDITION	4
CONSTRUCTION EQUIPMENT EMISSIONS	4
EMISSIONS BUDGET AND MONITORING VEHICLE EMISSIONS	5
<u>WATER QUALITY</u>	6
BUCKEYE BROOK WATERSHED	6
WATER QUALITY TESTING	6
DEICING MITIGATION GREENWICH BAY WATERSHED - SPECIAL AREA MANAGEMENT PLAN	7
SPECIAL AREA MANAGEMENT PLAN (SAM)	8
GROUND AND SURFACE WATER	8
WETLAND AND WILDLIFE VALUE	8
<u>NOISE</u>	9
FORECAST UPDATE	9
INM" MODEL	
FIELD NOISE MONITORING	
55 DNL	
GRID POINT SEL (SINGLE EVENT LEVEL)	10
IMPACTS WITHIN THE 60- 70 DNL CONTOUR:	10
3 DNL INCREASE	10
UPDATE FLEET MIX	10
MAPPING DATA	11
NOISE MITIGATION	11
PART 150 SOUND ATTENTION/TAKINGS	
NORTH DEPARTURE 5R-23L CORRIDOR - IMPACT ON RESIDENTIAL COMMUNITY	12
COMPARATIVE NOISE ANALYSIS	12
<u>ENVIRONMENTALLY PREFERRED ALTERNATIVE</u>	13
<u>ENVIRONMENTAL MITIGATION</u>	
<u>QUALITY OF LIFE</u>	13
HOUSING	13
LAND ACQUISITION	
FISCAL IMPACT	13
CIVIC ATTITUDES	14
RECREATIONAL FACILITIES	14
ENVIRONMENTAL JUSTICE	14
<u>TRANSPORTATION</u>	14
AIRPORT ROAD RENTAL ACCESS	15
ROUTE 37	
<u>COMPREHENSIVE PLAN</u>	16
LAND USE COMPATIBILITY/INCOMPATIBILITY	16
CONSISTENCY REVIEW	17
FINANCIAL IMPACT ON THE COMMUNITY	
SAFETY	18
<u>COST/BENEFIT FEASIBILITY STUDY</u>	18
FINANCIAL CONDITION STATEMENT	18
ALTERNATIVES TO RUNWAY CONSTRUCTION	18
INCIDENT/ BANKRUPTCY ANALYSIS	19
<u>REGIONAL MARKET ANALYSIS - NEW ENGLAND</u>	19
<u>ADDITIONAL AREAS OF STUDY</u>	20

The City of Warwick Planning Department suggests the inclusion of all the following areas of study *in addition to* the required elements of study under federal regulations governing the creation of Environmental Impact Statements. *The recommendations herewith are not an inclusive list of all concerns and maybe supplemented in writing prior the Federal Aviation Administration deadline for public comment.*

The Planning Department is of the opinion that a reasonable assessment of community impact from the proposed alternatives begins with recognition of community impairment associated with the existing condition. The unmitigated growth of the T.F. Green Airport within this highly urbanized community has raised several environmental and public health concerns that have yet to be addressed. The EIS process must undertake the responsibility of satisfying the outstanding concerns as a critical factor in selecting the preferred alternative.

A reasonable approach offered by the Planning Department suggests the “supplementary scope” include a more progressive field of study beyond that mandated by federal regulation. In particular study and data collection would establish a baseline condition for further evaluation and assessment. The baseline data would limit the use of assumptive data and eliminate the “sliding scale” comparison that was so prevalent in past studies.

The Planning Department offers the following topics of study.

I. AIR QUALITY

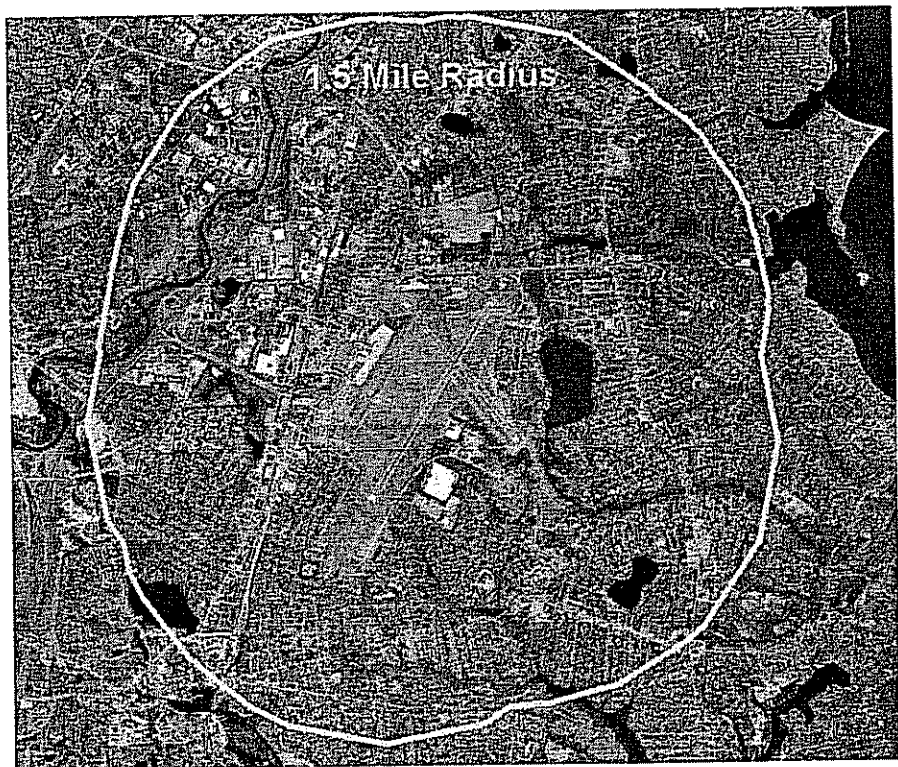
To date, mitigation programs have addressed more often than not noise issues largely ignoring the hazardous and toxic air pollution generated by aircraft exhaust. In addition to the hazards centered on aircraft exhaust is the issue of increasing emissions from greater number vehicles traveling to the airport from southern Massachusetts. The concentration and volume of emissions associated with the airport landuse must be a focus area of study. The EIS must examine the assortment of air pollutants generated by the entire “airport use” in an effort to obtain a baseline condition for evaluation, assessment and comparison. The unprecedented growth in operations at T.F. Green Airport has resulted in air/noise pollution concerns that are often not cited in the collective benefits assigned to the airport. Despite the late initiatives of alternative fuel vehicles the study and reductions of emissions attributed to the airport land use is largely unstated. The consultant shall study carbon monoxide (CO) and nitrogen oxides (NOx), particulate matter with a special consideration for volatile organic compounds (VOC) and air toxins to gauge cancer risk and other diseases that pose a danger to public health. (See section I C HAZARD IMPACT.) The EIS should identify and address disproportionately high and adverse human health risk and environmental effects throughout the noise contour as well as within a 1.5 mile radius of the airport. Effected populations must have meaningful input within the public process. New data must be collected and used in the assessment of the existing condition. The data shall be evaluated in terms of human health risks and effected populations. The EIS shall incorporate the information and create a baseline condition for evaluation against the preferred alternative.

A. AIR QUALITY MONITORING

The scoping process for the EIS must test the preferred project alternative against an established baseline that has been properly identified. To date previous studies have used a “sliding scale” comparison that did not properly measure impact on the community. Devoid of airport specific data, it is difficult to complete a proper risk analysis necessary in determining cumulative impact. To date the long-term impact from years of incremental airport related developments have not been studied. The EIS must adopt an aggressive air quality testing and monitoring program with computer modeling used only as a supplement. Actual measurement and monitoring of pollutants will provide a much-needed basis for technical evaluation at this time and in the future.

B. TESTING – 65 DNL NOISE CONTOUR AND WITHIN 1.5 MILE RADIUS OF THE AIRPORT “FENCE”

The City is advocating an entirely different approach that would target the most effective residential areas and sensitive receptors. The assessment to be included within this scope begins with establishing air quality testing within the 65 DNL contour and within 1.5 mile radius of the airport fence line. The EIS must conduct actual 24-hour peak hour air quality sampling within the surrounding residential community to determine impacts to human health from air toxins. The study shall evaluate the data for historical correlation of air pollution and documented health and mortality rates within the community. The aforementioned monitoring shall measure concentration of pollutants within a 1.5 mile radius around the airport in residential neighborhoods.



The air quality study must identify and quantify sources of emissions including major sources total suspended particulate, carbon monoxide air toxins and volatile organic compounds. The EIS must specifically study the quantity, effect concentration and dispersion of these pollutants in the community. The aforementioned monitoring shall provide the empirical data to identify “hot spots” or concentrations of adverse health conditions. Inventory of pollutants emitted must

be distinguished from that of aircraft emissions and ground transport emissions from cars, buses and freight including induced transportation impacts. The EIS must also quantify emissions from loading delays and time idling on taxiways. The scope of the EIS must include emphasis of toxic air pollutants associated with current airport operations including wind and flight tracking data to study pollutant dispersion patterns throughout the City. The scope shall define background urban air pollution and break down the pollutant contribution by type and source. The EIS shall address off-airport roadways and intersections including on-airport source increase/decrease compared to the baseline concentrations of air pollutants including toxins. The predicted background concentrations used in the study must be clearly identified including a list of assumptions and predicted impacts before and after mitigation.

C. HAZARD IMPACT

Establish a baseline health condition and evaluate how the airport, related activities outside of the airport and vehicular traffic impact the health of the residents within the surrounding community. The study must consider the health risk associated with elevated emissions associated with the alternatives proposed. The scope must include an exhaustive study of fuel, solvents and the emissions of chemicals including the short and long-term impacts on the public health. The EIS must focus on toxic pollutants to determine the existing and future levels of air pollution and their effect on increased risk of cancer, acute or chronic disease and respiratory conditions. A focal point of the monitoring and study should concentrate but not be limited to the following. (*Supplementary request to follow*)

Polycyclic aromatic hydrocarbons (PAHs)	<i>Are produced by burning jet fuel and are found in emissions from generators and motor vehicles. Exposure to polycyclic aromatic hydrocarbons is associated with lung and skin cancers and, possibly, urologic, leukaemia, gastrointestinal, laryngeal and pharyngeal cancers. USEPA</i>
Hazardous air pollutants (HAPs)	Toxic air pollutants
Benzene in Air	
volatile organic compounds	
Particulate matter	PM 2.5 in Air, PM 10 in Air
Air Toxics,	TBA
Carbon dioxide	
Carbon monoxide	
Nitrogen dioxide	
Sulfur dioxide	
Ozone	

Volatile organic compounds found at increased levels downwind of O'Hare International Airport and should be studied at T.F. Green

Propane+Propene	Chloromethane	Isobutane+Acetaldehyde
Butene+IsoButene	Butane	Acetonitrile
Acrolein	Isopentane	Acetone
IsoPropanol	Pentane	Methylene Chloride
C5H10 Alkane	Carbon Disulfide	2-Methylpropane
Trichlorotrifluoroethane	Methacrolein	2,3-Dimethylbutane

2-Methylpentane	Butanol	2-Butanone
3-Methylpentane	2-Methyl-Furan	2-Methyl-1-Propanol
Methylcyclopentane	2,4-Dimethylpentane	n-Butanol
Benzene	Carbon Tetrachloride 2-Methylhexane	
2,3-Dimethylpentane	Pentanal	3-Methylhexane
Trichloroethane	Iso-Octane	n-Heptane
4-Methyl-2-Pentanone,	Methylcyclohexane	C8H18 Compounds
Toluene	2-Hexanone	Hexanal
2,4-Dimethyl-3-Pentanone	n-Octane	Unidentified Compounds
Ethylbenzene	m- & p-Xylene	Cyclohexanone
Heptanol	Styrene	o-Xylene
Butoxyethanol	n-Nonane	alpha-Pinene
Benzaldehyde+2-Ethylhexane	3-Ethyltoluene	4-Ethyltoluene
1,3,5-Trimethylbenzene	Octanol	1,2,4-Trimethylbenzene
n-Decane	C8H14O Aldehyde	
	Acetophenone	
C10H14 Aromatic	C11H24 Alkane	Octamethylcyclotetrasiloxane
Nonanal	n-Undecane	C9H16O Aldehyde
Naphthalene	n-Dodecane	n-Tridecane

Source: *Chicago O'Hare Airport Air Toxic Monitoring Program*

D. CONSTRUCTION

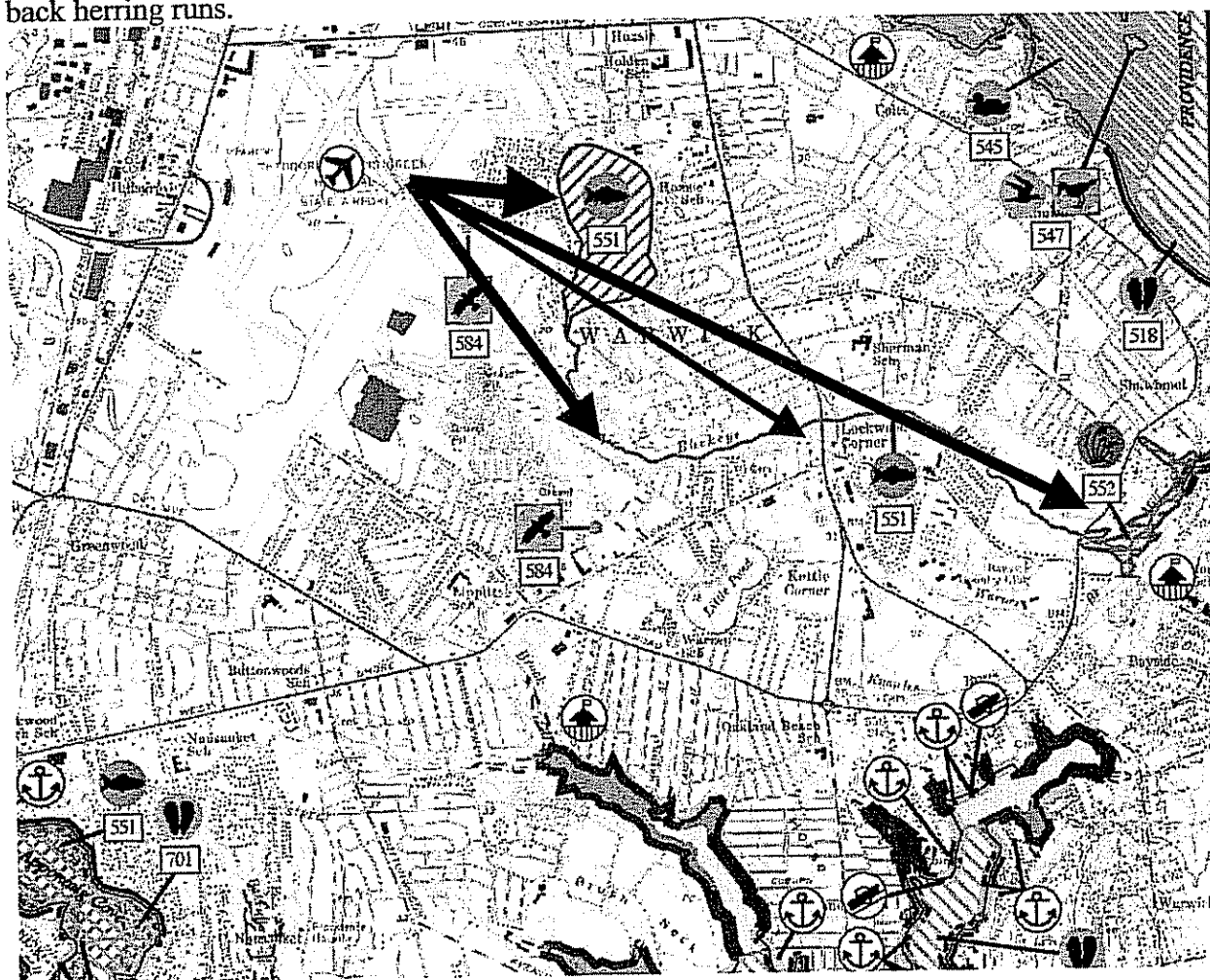
Equipment Emissions

The EIS shall identify all construction initiatives within the timetables specified as a measure of impact on the nearby residential community and the travelling public. Noise, dust and emissions from heavy equipment used for construction of the proposed airport improvements shall require detailed analysis as to duration, emissions and health impact (noise and air quality). Assigning customary or generic mitigation will not be accepted. Evaluation must include input from the Department of Transportation, Rhode Island Department of Health the Department of Environmental Management and the City of Warwick. The construction projects must identify the number and hours of operation of the construction machinery used for project completion. The assessment must include excavators, loaders, backhoes, cranes etc. The evaluation shall account for machinery used by personal on the job site, such as jackhammers, drills and compressors. Impact from noise, dust and vibration must be evaluated for each of the alternative against the base line condition. Addressing mitigation must expand beyond the perfunctory to include innovative actions such as those implemented in clean construction projects throughout the country. Diesel particulate filters, ultra low sulfur diesel fuel, diesel oxidation catalysts are retrofit technologies are the minimum standard necessary to appropriately address the health impact on the community.

Emissions Budget and Monitoring Vehicle Emissions

This section must address degraded air quality through idling vehicles, traffic congestion and delays associated with project construction. The duration and magnitude of the construction project will pose varying degrees of traffic delay and congestion within the City's arterial roadways. The increased emissions derived from idling vehicles stacked within a construction zone will vary based on many factors. The Study must provide a detail list of project impacts to

The airport land use contributes toxic substances to the receiving waters of Buckeye Brook. Deicing chemicals along with other chemicals used by the airport land use are a major threat to this environmental resource. The *Buckeye Brook Watershed Council* has documented reports of deicing agents reaching the waters of Buckeye Brook and reports of odor and colored stream water posing a real and imminent threat to this natural resource. Buckeye Brook is exceptionally important because of its habitat value most notably as a spawning ground for alewife and blue back herring runs.



De-icing chemicals are not the only threat to this resource. Other onsite activities including fueling, cleaning and maintenance may contribute to pollutants that are "taken up" by runoff within the airport perimeter. The proposals to be studied must include a complete list of agents, chemicals and fuels used on site including methods of disposal and quantity of chemicals leaked and or spilled on pervious and impervious areas within the airport perimeter. The consultant shall also be responsible to define the time of travel of pollutants taken up by a storm event in terms of pollutant travel to a receiving water body within this watershed.

A. WATER QUALITY TESTING

Water pollution is a public health issue that impinges on the social values of this community. The demands imposed on our natural environment pose a health concern to the community and a constant threat to the natural resources of the community. Presently RIAC attempts to capture glycol onsite with varying degrees of success. However the airport drainage system is not designed to properly handle the quantity of fluid and the mitigation provided is only partially successful. The consequence is one of recurring release of glycol to nearby water resources that include a freshwater wetland, lake and streams. The glycol releases generally occur during cold weather and are difficult to track. The City recommends the consultant take on an extensive and aggressive water quality testing program for Warwick Lake and Buckeye Brook that includes downstream and source monitoring and testing. The goal is to establish the existing base condition to permit measured improvement and mitigation. The water quality testing would include testing of biochemical oxygen demand (BOD) on receiving waters, eutrophication (oxygen depletion) with observational analysis of nuisance algae blooms and fishery impacts.

DEICING MITIGATION

The dispensing of glycol should require a closed collection facility on airport property to collect the glycol fluids. Although existing efforts by RIAC may be improved over past years they still are far short of what is required to eliminate the detrimental environmental impact on the water resource. The consultants should evaluate the construction of a dedicated deicing area designed as a closed system. Interim measures of study include improved equipment and techniques for fluid application and improved techniques designed to maximize de-icing efforts and discourage over-application. Other areas of study include centralizing and standardizing de-icing facilities, improved weather monitoring and minimizing the length of time between glycol applications and aircraft take-off. The consultants must review new or retrofitted systems designed under the auspices of EIS mitigation techniques. Review should include study of retrofitting the existing stormwater collection system serving the apron area by channeling fluids into underground diversion chambers (during glycol use). The diversion chambers with a computerized fluid management system could sample contents of the diversion chamber to determine the glycol concentration and then determine a method of disposal. Fluids with "low" concentrations could be further diluted and time released where high concentrations may be stored in-ground until tanker trucks can unload the fluid for off-site recycling or disposal.

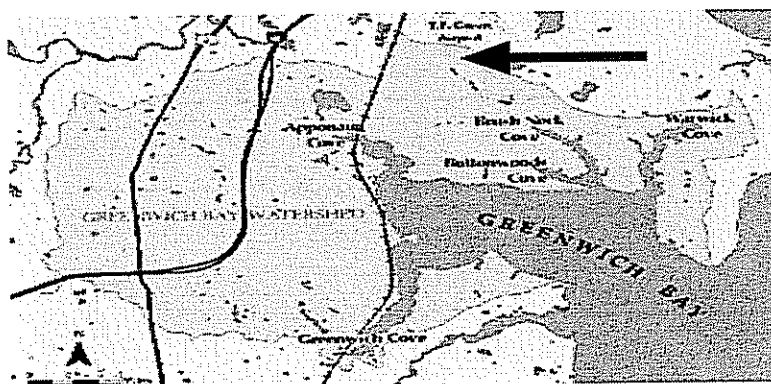
B. GREENWICH BAY WATERSHED - SPECIAL AREA MANAGEMENT PLAN Special Area Management Plan (SAM)

Greenwich Bay Special Area Management Plan is being developed for Greenwich Bay which provides vital shellfish habitat, shoreline access, boating opportunities, scenic views, and historic significance to the citizens of Rhode Island. Pollution from stormwater runoff, failing septic systems, and over-development threatens the water quality needed to support those uses. Residents, marinas, yacht clubs, shellfishing operations, restaurants, and other commercial enterprises depend on a healthy Greenwich Bay. A productive estuary taxed by pollution, Greenwich Bay has been the subject of significant attempts to address water quality and other issues. Research done as part of the Greenwich Bay Initiative has identified sources of pollution and analyzed the physical processes taking place in the bay. Continued water quality issues and a desire to expand on the efforts of the Greenwich Bay Initiative led to a call for a Greenwich Bay Special Area Management Plan (SAMP).

The Coastal Resources Management Council is coordinating with Warwick, East Greenwich, government agencies, and community organizations to prepare the Greenwich Bay Special Area Management Plan. The SAMP is built on government cooperation and community participation. It is adopted into state and local law and recommends policies and actions that government can undertake to protect a complex natural resource that is part of a larger watershed ecosystem. The SAMP provides several mechanisms to coordinate separate governmental bodies, with its overall goal to promote effective coordination among the management authorities within the watershed. The SAMP will describe the present status of the bay, characterize its watershed, identify sources of pollution, and recommend steps to help government work with communities to restore, protect, and balance uses of Greenwich Bay for this and future generations.

**Description provided by Coastal Resources Management Council*

The preferred alternatives to be studied within the EIS are located within the Greenwich Bay watershed and subject to the management plan policies and pollutant limitations.



C. GROUND AND SURFACE WATER

Environmental Site Assessments must be conducted near Buckeye Brook ecosystem to determine if there has been contamination of the surface or groundwater from previously established uses located in the vicinity. Study and sample groundwater and evaluate whether there is groundwater inflow to Buckeye Brook or Warwick Pond. The EIS must report the results of the surface and groundwater sampling and indicate whether the groundwater is reaching the water sources and in what time frame. The time of travel and pollutant capacity of the groundwater must be evaluated and conclusion rendered.

D. WETLAND AND WILDLIFE VALUE

The EIS shall conduct biological assessment and survey of Warwick Pond and Buckeye Brook by qualified biologist. The study must identify and catalog fish and spawning areas including evaluation of current and potential impacts to the resource. The EIS must consult with the Department of Environment Management, Coastal Resources Management Council and the University of Rhode Island on issues of wetland and wildlife value. Data collection shall include onsite inspection and collection of scientific data to determine species distribution, habitat needs, and other biological requirements as accomplished through delineation of all wetlands and buffer hydro-logically connected to the Airport use. Land cover, presence of special habitats description and distribution of species, conditions, shall be evaluated and mapped along with nesting, roosting and rearing habitats. The EIS shall describe the existing habitat condition and analyze the potential effects of all the proposed actions. The study shall indicate direct and indirect effects, cumulative effects including conclusions from "no effect" to "beneficial effect"

Stormwater

(Section to be supplemented)

III. NOISE

FORECAST UPDATE

The protracted Airport Master Plan and Environmental Impact Statement (EIS) process has resulted in forecast data that is out of date. The Rhode Island Airport Corporation (RIAC) Board of Directors abrupt change in selecting an alternative to forward for EIS review has come with consequence. The stalling of the process required a supplementary scoping process has cost nearly a year delay in the process. During this time there has been many changes in the fiscal stability of a number of the largest commercial carriers including questions as to cost and viability of the spoke and hub system itself. Time, fiscal instability and a change in the aviation industry collectively result in the necessary implementation of a new forecast. The updated forecast shall include tables depicting carrier, aircraft type, daily operations, arrivals day, arrivals night, departure day and departure night, and enplaned and deplaned passengers. The new data shall be included within a table for comparative assessment. The new table should include all data intervals including current forecast, master plan forecast and all yearly statistics following the year 2001. The new table should contain a statistical comparative by and between all years including the forecast contained within the master plan. The analytical assessment of the figures shall include aggregate, percent and average increase/decrease of operations and enplanements/deplanements by air carrier. The table shall be further sub-classed by commercial, commuter/air taxi, military and general aviation operations.

A. "INM" MODEL

FIELD NOISE MONITORING

55 DNL

"Noise measurement" is separate than "noise impact" on humans and their surrounding environment. The highly suspect computer modeling known as the Integrated Noise Model "INM" is a computer generated noise model used within the EIS process. The model contains non-specific inputs averaged over a 24-hour period. The result is an unfair depiction of noise impact on the community especially within those locations that are located just outside the mapped contours. The EIS must collect and conduct actual single event noise monitoring within the 60 DNL noise contour and within residential neighborhoods and schools located within a two mile radius around the entire perimeter of the airport. Use of the real time noise data in the model would curb the limitations innate within the INM. Model predicted noise contours using actual field noise data as a control would allow for the least amount of assumptions and unverifiable data as possible imparting a study of greater accuracy and reflection of human impact. The EIS shall use this model in conjunction with actual field data to accurately indicate the severity and extent of noise impact on the community. The Day-Night Sound Level (DNL) shall be augmented with Single Event Noise levels (SEL) to permit advanced evaluation. The existing and future aircraft noise contours indicate the effect on residents and wildlife. Future effects are to be calculated as a variance to the base condition. The extent of change shall be depicted for each contour range and quantified in terms of exposed population, number structures and families. To assist in valid assessment of exposure the EIS should adopt and map the 55 DNL

noise contour as a planning tool to establish the lower extent of noise exposure in the community.

Grid Point SEL (Single Event Level) - The consultant shall conduct actual noise measurements of single event noise using the SEL (Single Event Level) noise metric. This metric represents not only the loudness of the noise but the length of time the noise lasts which is of critical importance in the real impact of noise on humans. The SEL with shall be depicted on a grid map for evaluation and inclusion within the INM model . The noise monitors shall include field measurement take off landings, background ground noise and engine runups on a 24 hour basis for a length of time no less than 12 weeks. The analysis and grip point data shall be sub – categorized into daytime and nighttime operations per the perimeters of the Integrated Noise Model (INM).

Impacts within the 60- 70 DNL Contour: For all the proposed alternatives, the consultant shall depict the change within the 60 – 70 DNL contours (per alternative). The technical information must include but not be limited to: total number of new homes impacted, number of families, total persons, total children under 12 year of age, household income and sensitive receptors (schools, churches). The breakdown shall include up-to- date demographics for those impacted both in terms of increase and/or decrease in noise exposure.

3 DNL Increase - For all preferred alternatives the EIS shall as a sub-category of above map areas within the City that receive a 3 DNL or greater increase in noise exposure. The areas shall include parcel-based mapping and detailed and up-to-date demographic data for these areas.

Update Fleet Mix

The EIS shall update and include pending changes in fleet mix by air carrier including the acceleration or cessation (fiscal) of aircraft purchased by airline. Summarize the changes in fleet mix by air carrier and indicate how the change in aircraft type may impact number of operations verses total enplaned passengers per year. *(ie. per air carrier – trend toward smaller regional aircraft resulting in an increase in aircraft operations versus a carrier purchasing larger aircraft that may promote greater passenger growth with only nominal increase in aircraft operations)*

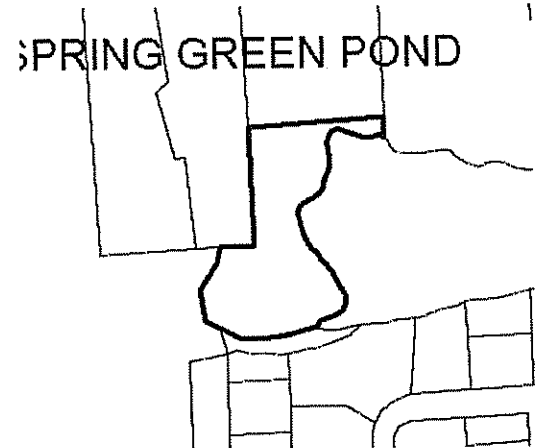
Mapping Data

The EIS must provide detailed mapping and data including demographics on a parcel-based scale with aerial photography. (See below)

EXAMPLES:



Property owned by the State of Rhode Island



B. NOISE MITIGATION PART 150 SOUND ATTENTION/TAKINGS

Precise study and mapping of high noise environments in need of mitigation or taking (condemnation). The scope must detail the time-based format the cost and implementation of an expanded sound insulation and/or relocation program. Aircraft noise travels outside the INM contour and as such the EIS should evaluate expanding the relocation program and/or land swap program for funded outside the FAA. Define the cost and time line of relocation and sound attenuation programs and the degree to which the programs are dependent of federal funding. Proposed mitigation shall include alternative actions including change in flight track and departure profile, runway rotation and voluntary curfews.

North Departure 5r-23l Corridor - Impact on Residential Community

All but the “no build” alternative would increase flight operations within this corridor. Since the completion of the PART 150 study the previous consultant forwarded a flight corridor (north 5r-23 L) that required a departing commercial air carrier to navigate a 100’ wide commercial corridor as a means of achieving noise mitigation. The difficulty with the theory is that in reality the non-residential corridor (Elmwood Avenue) selected for overflight is surrounded by densely populated residential landuses. Very seldom if ever does the aircraft directly overfly the narrow corridor. Instead, the aircraft depart over densely populated residential areas of the City defeating the intent of the departure corridor and subjecting hundreds of homes to unwarranted noise exposure. The EIS shall study this condition and suggest alternatives to the current departure path including an adjusted flight path, rotating or staggered departure corridors.

Comparative Noise Analysis

Comparison of the alternatives noise impacts shall be based on the existing condition, capacity, and not that of a particularly high noise year where retrofitted stage two aircraft were more prevalent. The illegitimate comparison may serve to minimize what might otherwise be significant changes from the current level of noise exposure experienced by nearby community. The consultant must define in detail the base condition used in the analysis and indicate what assumptions may have been included in the base condition. We recommend that the document provide appropriate justification of the base.

IV. ENVIRONMENTALLY PREFERRED ALTERNATIVE ENVIRONMENTAL MITIGATION

Following completion of an impact analysis, the consultant shall identify an “Environmentally Preferred Alternative” that would impose the least impact on the City’s natural resources. The evaluation would be completed exclusive of mitigation measures (*other than the “No-Build” option*). The EIS should include a comparative matrix that clearly identifies the qualitative analysis and impacts on the natural environment.

Mitigation proposed within the EIS must be subject to public discussion and local comment early on in the process since the effectiveness and mitigation proposed may itself require study as to its effectiveness and ameliorating the communities concerns. Speculative mitigation concepts, outlines or generalized practices will be not be considered an acceptable alternative to distinct mitigation actions. Past studies have included ambiguous, vague and often generalized statements passed off as mitigation plans. These generalized statements will not be accepted in this study. The City will embrace the NEPA standard for specific and detailed review through data collection and examination to prove; avoidance, minimization or compensation of adverse project impacts.

V. QUALITY OF LIFE

Study, evaluate and quantify critical elements that form the basis of quality of life in the community. Specifically, the EIS must quantify the effects and impact of aircraft noise and pollution on the community especially within concentrated residential areas susceptible to aircraft noise and exhaust. The study must include the current baseline condition as well as net changes for all proposed alternatives. The domain of study should include but not be limited to study of the following. (*Section to be supplemented*)

Housing LAND ACQUISITION

The EIS shall review the alternatives against the City of Warwick Affordable Housing Plan for consistency. The EIS shall conduct a real estate study to understand the proposals impact on housing values and housing stock for low to moderate-income families. The real estate study must calculate the number of homes on the market within home acquisition area to determine the supply and impact on the effected community. (*Section to be supplemented with housing plan*)

Fiscal Impact

Study the loss in tax base and diminution of property values from aircraft overflight. The EIS shall include a study of projected loss of tax base for each of the alternative action.
(*Section to be supplemented*)

Civic Attitudes

Study the relationship between the airport operator and the host community and suggest alternatives that would improve the relationship. (Interview; policy/law makers, residents, essential stakeholders and community groups). The EIS must explore the civic impact of airport mitigation programs (sound installation and relocation) on the community's structure and established neighborhood dynamic. Investigate the social impact of adverse noise and air quality conditions on low and moderate-income populations including a relative comparison with other cohort groups.

Recreational Facilities

Qualitative study of impact of the proposed actions on parks, playgrounds and recreation fields serving the youth sport programs. The EIS must study and define recreational areas and ball fields that are subject to relocation or removal and define the number of children, participants and teams displaced by proposed alternative.

Environmental Justice

The consultant must perform rigorous analysis of Environmental Justice quantifying and investigating the impacts of the alternatives on low and moderate-income families impacted by the proposals. Environmental Justice under NEPA must be addressed beyond the routine and perfunctory census tract analysis of the surrounding community. Current data including real estate valuations, housing stock and employment statistics coupled with regional analysis must set the groundwork for this study. The consultant shall address the proportionate or disproportionate impact assumed by this group. The EIS must depict and map distribution of impact by income group and race.

Transportation

Airport Road Rental Access

ROUTE 37

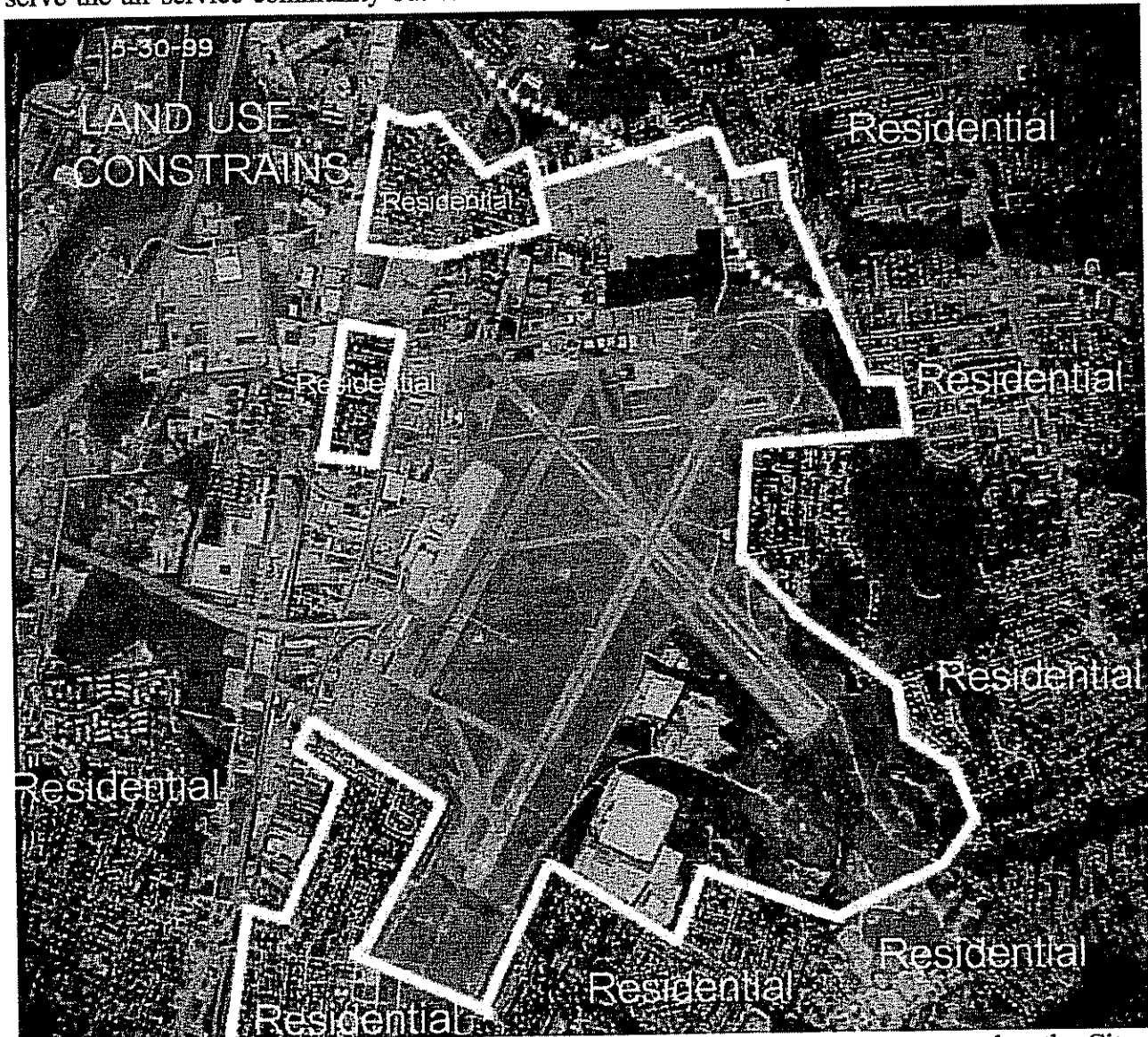
Include updated base information and additional vehicle generation associated with the proposed alternatives. Level of service changes for all intersections and roadways as specified in the previous scope. The consultant shall conduct traffic studies and analysis that is consistent with expected increases in trip generations outlined by the forecasting data against the base line condition. Assumption used in this calculation must be clearly identified especially careful when considering issues of reduction in trips generation. The runway alternatives must consider infrastructure improvements to City and interstate roadways as a mitigating measure. The consultant shall study and recommend improvements to the existing transportation condition with specific emphasis of projects already considered and/or identified by the community. Improving or creating direct access to an existing highway shall warrant study as a preferred mitigation alternative. Specifically the extension of Route 37 requires study as an alternative to alleviate traffic congestion created by a selected alternative. The consultant shall study the feasibility of funding and construction of the route 37 extension. Post Road, Airport Road and

Main Avenue are vital links within the community that provide vital access to the community and airport landuse. Constructions along these roadways have proven to have a detrimental impact on local business. The study must not only concentrate on level of service after construction but also during the time of construction including capacity analysis and estimated delay during peak demand. Additionally, the EIS must examine the existing rental car access on Airport Road and suggest improvements to the said ingress/egress. The mitigation provided by improved infrastructure shall be identified in a comparison matrix of alternative mitigation proposed. *(Section to be supplemented)*

VI. COMPREHENSIVE PLAN

Land Use Compatibility/Incompatibility

The determining factor in land use around the airport is not found within the City's zoning and planning regulations but within the Airport Master Plan. The Airport Master Plan operating with impunity trumps the best planning efforts of the community by forwarding land uses that are exempt from local planning and zoning regulations and are incompatible with the surrounding residential community. The often-prejudiced developments sought within the airport master plan serve the air service community but often are at odds with the City's zoning and landuse plan.



The single practice of exempting the airport land use from the police power granted to the City will ensure future incompatibility of landuse. Updating the local zoning and comprehensive plan will be unsuccessful unless that airport use is required to comply with local regulation. The EIS

must explore this critical defect in the process of land use planning. The EIS must identify the problem areas and recommend changes that would promote and improve land use compatibility.

The EIS must address the proposed alternatives compliance and consistency with local zoning regulations and Comprehensive Plan. *(Section to be supplemented)*

CONSISTENCY REVIEW
Impact of airport master plan and runway extensions on future land use pattern in the city
Future land use alternatives contained within the master plan and in the proposed actions
Transposition infrastructure of the City
Alternative roadways
Natural resources - Buckeye Brook, Greenwich Bay
Historic archeological
Recreational resources
Water quality surface, groundwater nearby streams and lakes
Drainage runoff pollution
Existing and future incompatible landuse
Surrounding development patterns
Affordable housing
Quality of Life
Traffic
Real Estate value
Open space
Playgrounds
Community tax base

Financial Impact on the Community

The consultant shall study, identify, and quantify loss of local property taxes both real and personal for all alternative runway proposals. The evaluation shall study the yearly loss of income to the local community from land acquisition (real estate taxes) and spin off spending in the community from the displaced persons using an economic multiplier. The study must evaluate the five-year aggregate tax burden on the municipality from takings for each alternative adjusted for inflation. A map and table based matrix shall depict individual lots of tax-exempt property created by each alternative. The scope must evaluate the impact on local businesses impacted by construction and traffic congestion. The time-based evaluation must include meetings with effected business owners to gain tangible data as to their income and potential monetary loss sustained as during construction and/or takings effecting their customer base.

Safety

Statements, analysis and determinations on public safety as it relates to runway operation safety must only be made by the Federal Aviation Administration not the consultants or airline industry. The EIS must study the safety considerations at the end of the runways for the proposed alternatives.

VII. COST/BENEFIT FEASIBILITY STUDY

The scoping must include a detailed study of all project costs including but not limited to runway construction, roadway reconstruction, terminal, gate, ticket, baggage, administrative and field improvements to gain a full accounting of the true capital expenditure sought. The EIS must detail the entire budget including contingencies, site development costs, consultants and time based fiscal considerations. The figures shall be used by the consultant in the performance of a feasibility study for all runway alternatives that shall include a *return on investment analysis*. The results would be reported in a comparative matrix. The time based study shall indicate the capital investment necessary for each alternatives including time of return and a list of assumptions that need to come to fruition to achieve this timeline. The study in part should include a risk evaluation for all aforementioned including a list of assumption used in the development of the return on investment analysis and rate of return on capital investment by 2009. The study must evaluate and forecast the cost the per passenger cost to finance all improvements for each alternative. The consultant shall perform a correction evaluation on the return on investment study using variables of under performance of the aviation forecast as an exercise in statistical inference.

Financial Condition Statement

Considering the aforementioned the EIS must identify the total financial commitment for all the alternatives and define all sources of revenue (actual and assumed) included projected debt service by 2009. All new revenue derived from non-stop coast to coast service must be defined by a description of the assumptions and variables used in the calculation. The scope must clearly identify problem areas in terms of financial stability effecting future debt service. The scope shall estimate the dollar amount of "local match" required completing the said improvements per alternative. "Local" shall mean publicly financed sale of bonds by or through the agency know as the Rhode Island Economic Development Corporation and/or use of other State funds used as a match including in-kind services.

Alternatives to Runway Construction

The EIS must complete an evaluation of a fiscal alternative to the "build" scenario whereby the funding required to complete the preferred alternative would be directed to improving terminal, transportation and processing of passengers as an alternative to runway extension. The assessment would explore promotion through supplementary techniques such as a ramped up marketing plan and regional cooperation designed to meet the goals of RIAC without the need to construct a runway outside the fence line of the airport. This section should include a comparison

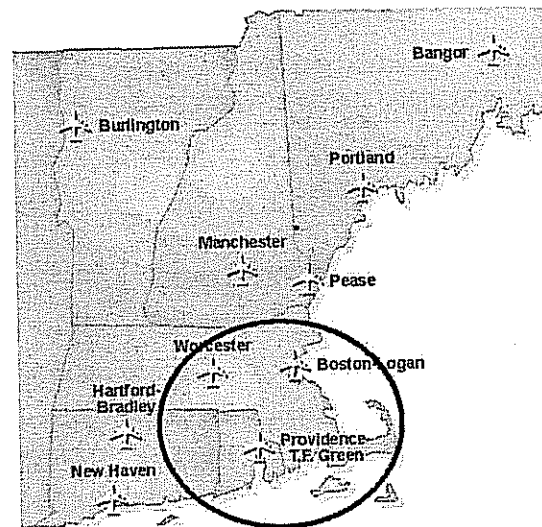
matrix indicating the cost and return on investment for all runway lengthening alternatives against this control which will be identified as a "modified no build" alternative.

Incident/ Bankruptcy Analysis

Study the impact of an abrupt change in air service to the market from airline bankruptcy, terrorist event or other catastrophic event. Recent concerns as to fiscal stability of US Airways and United or an "event" may skew the forecast used in the EIS evaluation and render the findings and cost benefit analysis mute.

Regional Market Analysis - New England

Evaluate the proposed runway alternative(s) (cost/benefit) against the achievements of a regional plan that of shared cooperative service to the market capitalizing on the strongest assets of all airports to serve the New England region. Define the strengths of the regional airports and markets they serve. Explain how their strengths may be augmented to provide a regional system as an alternative to a competitive based system. The study must include short haul, medium, and haul long and freight service, including new service destinations, under served markets and projected non-stop coast to coast flights for all regional airports. Provide forecasts for passenger growth within the entire New England Region and update changes in catchment areas for Logan Airport since completion of the central artery project. The EIS must explore the probability of fiscal insolvency of RIAC should the 9,500-foot runway alternative not be selected. Indicate the future market share by New England airport for each runway alternative considered as a deviation to the preferred alternative.



Provide annual number of visitors to New England destinations by 2009 Provide demographics by destination and airport for all New England markets. Indicate the top ten destination of visitors to and from New England. Indicate the purpose of visit (business versus personal travel). Complete a survey to determine commuting radius of passengers seeking nonstop flight (willingness to travel and how far). Market, demographic, population trends per catchment area for all New England airports.

ADDITIONAL AREAS OF STUDY *(to be supplemented)*

Public Participation	Exceed compliance with federal requirements of study	Detailed response to public in writing
Induced Socioeconomic Impacts Social And Cultural Factors	Disruption to community	Impair use and enjoyment of property
Other Health Issues	Hearing loss, asthma, respiratory distress, attention deficit disorder.	
Existing Proposed Land Use and Economic Activity	Airport Acquisition - vacant land	Loss to city ;taxes employment
Hazardous Materials		
Neighborhoods	continuity	Impact of Relocation program
Parklands	total of open space removed per alternatives total of buffers removed per alternative total of cleared and graded land per alternative	- Recreational landuses by acre pre and post condition. alternatives ability to maintain natural surroundings
Historical Architectural Archeological	Cemeteries , historic buildings (original terminal), Native American	Alterations, impact
Public Safety/Security Risks	- security risk per alternative - cost of additional fire and or other public safety equipment required per alternative Identify the cost for security/disaster preparedness per alternative	risk for fire, explosion or health hazards associated with tunneling quantify risk per alternative; increase in accidents and or incident from additional operations
Planning Factors (additional)	- land use existing and proposed landuse conformance with the local comprehensive plan and zoning ordinance. - Commercial, industrial and office zoned property (by acre) to be taken - number of residential takings, family income and purchase price as a subset of the State of Rhode Island average - The amount of new airport property acquired since 1992	- amount of redevelopment area per alternative amount of nonconforming land use adjacent to the (new) airport fence per alternative and cohesiveness of neighborhood alternatives ability reuse property takings for a taxable land use (local) alternatives ability to develop a taxable (local) industrial park/complex on non-compatible residential property alternatives